

IN THE CLAIMS

Please cancel claims 1-4, 6, and 11 without prejudice to or disclaimer of the subject matter recited therein, amend claims 5, 7, 8, and 12, and add claims 13-20, as follows.

1-4. (Canceled)

5. (Currently Amended) ~~The~~ An exposure apparatus ~~according to claim 1~~
comprising:

air pressure measurement means for measuring air pressure in a neighborhood of or inside a projection optical system;

first correction means, including aberration adjustment by driving a lens of the projection optical system, for repeatedly executing correction of an aberration based on the air pressure which is measured by said air pressure measurement means; and

second correction means, including aberration adjustment by changing a wavelength of an exposure light source, for executing correction of an aberration at a time interval longer than a repetition of the aberration correction executed by said first correction means, based on the air pressure which is measured by said air pressure measurement means,

wherein said second correction means performs aberration correction by changing the wavelength, or by changing the wavelength and driving the lens.

6. (Canceled)

7. (Currently Amended) ~~The~~ An exposure apparatus according to claim 1 ~~comprising:~~

air pressure measurement means for measuring air pressure in a neighborhood of or inside a projection optical system;

first correction means, including aberration adjustment by driving a lens of the projection optical system, for repeatedly executing correction of an aberration based on the air pressure which is measured by said air pressure measurement means; and

second correction means, including aberration adjustment by changing a wavelength of an exposure light source, for executing correction of an aberration at a time interval longer than a repetition of the aberration correction executed by said first correction means, based on the air pressure which is measured by said air pressure measurement means,

wherein said air pressure measurement means comprises:

(i) a first barometer for detecting an absolute value of air pressure;

(ii) a second barometer for detecting an absolute value or a relative value of air pressure at a higher speed than that of said first barometer; and

(iii) calibration means for calibrating an output of said second barometer based on an output of said first barometer, and outputting a calibration result as the measured air pressure value.

8. (Currently Amended) An exposure apparatus comprising:
a first barometer for detecting an absolute value of air pressure;
a second barometer for detecting an absolute value or a relative value of air pressure at a higher speed than does said first barometer;
calibration means for calibrating an output of said second barometer based on an output of said first barometer, and outputting a calibration result as a measured air pressure value; and
aberration correction means for performing aberration correction based on the air pressure value outputted by said calibration means.

9. (Original) The exposure apparatus according to claim 8, wherein said aberration correction means performs aberration correction by employing at least one of: aberration correction utilizing wavelength changing means which adjusts an aberration by changing a wavelength of an exposure light source, aberration correction utilizing lens driving means which adjusts an aberration by driving a lens of a projection optical system, and aberration correction utilizing stage driving means which adjusts an aberration by driving a wafer stage in an optical-axis direction.

10. (Original) The exposure apparatus according to claim 7, wherein said second barometer is configured with a laser interferometer.

11. (Canceled)

12. (Currently Amended) A method of correcting an aberration caused by a change in air pressure in an exposure apparatus, said method comprising:

a calibration step of calibrating an output of a second barometer based on an output of a first barometer and outputting a calibration result as a measured air pressure value, ~~said~~ the first barometer detecting an absolute value of air pressure and ~~said~~ the second barometer detecting an absolute value or a relative value of air pressure at a higher speed than does the first barometer; and

an aberration correction step of performing aberration correction based on the air pressure value outputted in said calibration step.

13. (New) The exposure apparatus according to claim 5, wherein said second correction means corrects more aberrations than does the first correction means.

14. (New) The exposure apparatus according to claim 5, wherein said first correction means performs correction at least during a shot of an exposure, and said second correction means performs correction in a non-shot state of the exposure.

15. (New) The exposure apparatus according to claim 5, wherein said first correction means performs correction from the beginning of an exposure process for a wafer to the end of all shots of the exposure, and said second correction means performs correction while the wafer is exchanged after the end of the exposure process.

16. (New) The exposure apparatus according to claim 5, further comprising stage driving means for adjusting an aberration by driving a wafer stage in the optical-axis direction,

wherein said first correction means and said second correction means perform aberration correction using said stage driving means.

17. (New) The exposure apparatus according to claim 7, wherein said second correction means corrects more aberrations than does the first correction means.

18. (New) The exposure apparatus according to claim 7, wherein said first correction means performs correction at least during a shot of an exposure, and said second correction means performs correction in a non-shot state of the exposure.

19. (New) The exposure apparatus according to claim 7, wherein said first correction means performs correction from the beginning of an exposure process for a wafer to the end of all shots of the exposure, and said second correction means performs correction while the wafer is exchanged after the end of the exposure process.

20. (New) The exposure apparatus according to claim 7, further comprising stage driving means for adjusting an aberration by driving a wafer stage in the optical-axis direction,

wherein said first correction means and said second correction means perform aberration correction using said stage driving means.